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ABSTRACT

A project was conducted at the University of Missouri-Columbia to develop, revise, and complete curriculum materials for nine secondary vocational education programs and specialized areas: forestry, advanced crops, clerical/secretarial, junior high home economics, textile fibers, drafting and design, metals, licensed practical nursing/advanced nursing degree, and allied health occupations. During the project, advisory committees for each area met to develop content outlines. Lessons were then written, edited, and typed, and graphics were completed by project staff. The advisory committees again met to evaluate the lessons, and then made final revisions of the units. Some units were field tested before final versions were developed. (Outlines of the curriculum materials make up the bulk of this report.) (KC)

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ED262176

FINAL REPORT

VOCATIONAL EDUCATION CURRICULUM DEVELOPMENT

Project #85-133-600-1 (116-116) (A)

Harley Schlichting, Project Director

University of Missouri-Columbia

Columbia, Missouri 65211

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ABSTRACT

Title: VOCATIONAL EDUCATION CURRICULUM

Principal Investigator: Harley Schlichting, Director
Instructional Materials Laboratory
10 Industrial Education Building

Institution: University of Missouri-Columbia

Location: Columbia, Missouri 65211

Phone: 314/882-2883

Starting Date: July 1, 1984

Ending Date: June 30, 1985

Objectives of Project:

To develop, revise, and complete curriculum materials for the vocational education programs and specialized areas listed below:

1. Forestry (Grade 10); development
2. Advanced Crop Production and Marketing: Corn Production, Forages, Soybean Production, Soil Conservation (Grade 11 and 12); development
3. Clerical/Secretarial Guide (Secondary); field test
4. Junior High School Guide (Grade 9); revision and field test
5. Textile Fibers (Secondary); revision and field test
6. Drafting and Design Curriculum Guide for Industrial Arts (Grades 7-12); revision
7. Metals Curriculum Guide for Industrial Arts (Grades 7-12); revision
8. LPN/ADN Bridge Course; development
9. Allied Health Occupations: Respiratory Therapy Aide, Radiology Aide, Physical Therapy Aide

A Brief Description of the Product:

Printed copies of the above curriculum materials will be available from the Instructional Materials Laboratory.

Impact to Vocational and Technical Education in Missouri:

The Instructional Materials Laboratory (IML) prepares curriculum resources for each of the vocational service areas and distributes them throughout Missouri and

nationwide. Prior to development, committees of local teachers, administrators, and business and industry representatives from throughout the state are involved in setting curriculum development priorities for the IML and in identifying content for the curriculum resources developed. The development of these curricula have made current and easy-to-use instructional materials available and easily accessible to vocational educators throughout the state. These materials have direct applicability to the state of Missouri in content, methodology, and need. The viability of instructional materials produced during the past fifteen years by IML is a matter of record.

STATEMENT OF THE PROBLEM

It has been the policy of the Department of Elementary and Secondary Education (DESE) of the State of Missouri to sponsor the development of curriculum addressing the variety of needs in vocational education. Consistent with that policy, the Instructional Materials Laboratory (IML) of the University of Missouri-Columbia has served with much success as a facilitator for the development of that curriculum. Projects have ranged in scope to include all of the six vocational service areas as well as special categories. The materials developed throughout the years utilized a variety of written curriculum formats which have now expanded to include mediated materials as well. The development of these curricula have made current and easy-to-use instructional materials available and easily accessible to vocational educators throughout the state. These materials have direct applicability to the state of Missouri in content, methodology, and need.

OBJECTIVES

Forestry

The overall objective of this project was to develop curriculum materials to provide 15 hours of instruction on Forestry in Agricultural Science II classes.

Sequence of Project

1. Advisory Committee of State Foresters and Vocational Agriculture teachers met to develop the content outline. (See Appendix A.)
2. Lessons were written, edited, typed, and graphics were completed.
3. Advisory Committee met to evaluate and revise the lessons.
4. Final revisions were made in typed copy and artwork

Advanced Crops

This project was designed to prepare four instructional units to be used in Advanced Crop Production and Marketing classes for grades 11 and 12. These units cover Corn and Sorghum Production, Forages, Soybean Production, and Soil Conservation.

Sequence of Project

1. Advisory Committee consisting of Agribusiness personnel, Vocational Agriculture instructors, and Soil Conservationists met to develop a content outline for each unit. (See Appendix B.)
2. Four writers prepared the units.
3. Advisory Committee met to review and revise content of units.
4. Revisions were made by writers.

Clerical/Secretarial Field Test

This project was designed to field test the Clerical/Secretarial Guide in ten sites throughout Missouri.

Sequence of Project

1. Field test committee met and training was conducted on the use of the guide. (See list of field test sites in Appendix C.)
2. Units were used and evaluated.
3. Due to technological advances, extensive revisions were recommended.
4. An extension was granted to allow for revisions and development of new material to include the use of modern technological equipment as well as current resources and teaching techniques in the guide.

Junior High School Guide (Grade 9)

The overall objective of this proposal is to field test, revise, and finalize the Junior High School guide for home economics that was developed during FY 84.

Sequence of Project

1. A project coordinator was selected to follow the recommendations of an advisory committee in each of the following activities.
2. An evaluative instrument (See Appendix D) was developed for the field test. After selecting ten field test sites, the field testers were given a one-day inservice session.
3. Field test results were turned in after one semester of instruction. Corrections and revisions were incorporated into the final product.
4. This guide is presently being reviewed by DESE designated personnel with close scrutinity being given to the instruction of morals and values.

Textile Fibers

The overall objectives of this project are 1) to update and revise the Textile Fibers Packet and 34 Transparency Masters and 34 Transparencies and 2) to field test, revise, and finalize the Textile Fibers Packet and 34 Transparency Masters and 34 Transparencies.

Sequence of Project

1. A writer and a seven-member advisory committee was selected.
2. Using pre-existing and validated task analyses in clothing and textiles and Scope and Sequence for Vocational Home Economics Education in Missouri, content revisions were determined.
3. After the revisions were written the guide was edited, typed, and proofread. The graphics department prepared the transparency masters.
4. The final product was submitted to the advisory committee and appropriate DESE personnel for review. (See Appendix E to see a copy of the table of contents from this guide.)

Drafting and Design Curriculum Guide for Industrial Arts (Grades 7-12)

The overall objective of this curriculum was the revision of the Drafting and Design Curriculum Guide for Industrial Arts Education using a format similar to the present Industrial Arts Guidebooks. To maintain and further program improvement in the area of drafting and design instruction, the content, instructional techniques and resource materials were updated to include the CAD-CAM system.

Sequence of Project

1. Advisory Committee
   a. IML, DESE, and advisory committee members (industrial arts teacher educators and industrial arts teachers involved in drafting and design) met and generated a content outline based on an existing guide and revised through use of DACUM process. (See Appendix F.)
   b. The committee met again to review the revised guide as developed by writer and approved or offered suggestions for revisions upon which final approval was contingent.
2. Writers
   a. Two writers hired for this project were oriented to IML and the curriculum format.

b. They worked with the project coordinator at IML to revise and update curriculum guide following recommendations of advisory committee.

3. The curriculum was developed to final copy.

Metals Curriculum Guide for Industrial Arts (Grades 7-12)

The overall objective of this curriculum guide was the revision of the Metals Curriculum Guide for Industrial Arts Education using a format similar to the present Industrial Arts Guidebooks. To maintain and further program improvement in the area of metals, the content, instructional techniques and resource materials were updated to include the CAD-CAM system.

Sequence of Project

1. Advisory Committee
   a. IML, DESE, and advisory committee members (industrial arts teacher educators and industrial arts teachers involved in metals) met and generated a content outline based on existing guide and revised through use of DACUM process. (See Appendix G.)
   b. The committee met again to review the revised guide as developed by writer and approved or offered suggestions for revisions upon which final approval was contingent.
2. Writer
   a. The writer hired for this project was oriented to IML and the curriculum format.
   b. He worked with the project coordinator at IML and content area specialist to revise and update the curriculum guide following recommendations of the advisory committee.
3. The curriculum was developed to final copy.

LPN/ADN Bridge Course

Objectives of this curriculum guide were to provide validated instructional materials to serve as the core of knowledge used to upgrade and expand skills, knowledge, and behavior for advancement from a Licensed Practical Nursing (LPN) program to an Advanced Nursing Degree (ADN) program.

PHASE I: A statewide comparison of LPN curriculums with ADN programs

Objectives:

1. Increasing the knowledge about LPN and ADN education to nursing educators.
2. Facilitating communication among nursing educators.
3. Determining similarities between LPN programs and fundamentals of nursing courses in ADN programs in order to award credit for fundamentals of nursing.
4. Determining differences between LPN programs and fundamentals of nursing courses in ADN programs in order to identify "bridge course" components. A "bridge course" component can be defined as one which upgrades or expands skills, knowledges, or behaviors to allow advanced placement in a program of study of higher order.

PHASE II: Development of modules for each component of the bridge course.

Objectives:

1. Identifying the role differences and similarities of the Licensed Practical Nurse and the Registered Nurse functioning at the associate degree level.
2. Demonstrating prerequisite competencies in problem solving as they relate to the nursing process.
3. Demonstrating proficiency in the nursing process at the

professional level in dealing with clients in acute and long-term care, to include the family and support personnel.

4. Designing nursing actions for teaching, referring, and/or restoring clients to their optimum health.
5. Assuming responsibility for professional and ethical standards as applied to professional nursing.

Sequence of Project

1. Advisory Committee
   a. IML, DESE, and advisory committee members (primarily LPN educators, ADN educators) met and generated a content outline for the proposed modules using the DACUM process. (See Appendix H.)
   b. The committee met again to review modules as developed by writers and approved or offered suggestions for revisions upon which final approval was contingent.
2. Writers
   a. Four writers were hired for this project - one per module.
   b. They were oriented to IML and the curriculum format.
   c. Each writer worked with the IML project coordinator to develop modules following guidelines of content outline.
   d. The completed modules were revised following the recommendations of the advisory committee.
3. The curriculum was developed to field test stage.

Allied Health Occupations Instructional Modules in Radiology Aide, Respiratory Therapy Aide, and Physical Therapy Aide

Objectives of these three curriculum guides were to provide instructional modules for secondary level health occupations students in the allied health areas of Radiology Assistant, Respiratory Therapy Assistant, and Physical Therapy Assistant.

These curriculum guides provide a systematic approach to specific occupational areas in response to those competencies identified by postsecondary health occupations educators.

Sequence of Project

1. Advisory Committee
   a. IML, DESE, and advisory committee members (postsecondary health occupations educators) met and generated content outlines for each module using DACUM process. (See Appendices I, J, and K.)
   b. Committee members in each area reviewed respective modules as developed by writers and approved or offered suggestions for revisions upon which final approval was contingent.
2. Writers
   a. Three writers hired for this project - one per module, with expertise in prescribed area.
   b. They were oriented to IML and the curriculum format.
   c. Each writer worked with the IML project coordinator to develop modules following guidelines of content outline.
   d. Revised completed modules following recommendations of advisory committee
3. The curriculum was developed to final copy.

POPULATION AND SAMPLE

Our cost-recovery materials are developed for all areas of vocational education to be used by secondary schools, vocational-technical schools, junior colleges, and other institutions of higher and special education.

CONCLUSIONS AND RECOMMENDATIONS

After the Vocational Education curriculum priorities were determined, curriculum materials were developed under the direction of selected PAVTE faculty members and DESE personnel with the assistance of the IML staff. Committees of local teachers, administrators, and business and industry representatives from throughout the State were involved in setting curriculum development priorities for the IML and in identifying content for the curriculum resources developed. All of the guides listed in this report have undergone the above developmental process.

DISCLAIMER

The following disclaimer was shown on all curriculum disseminated as a result of this project:

"The activity which is the subject of this report was supported in whole or in part by funds from the Department of Elementary and Secondary Education, Division of Career and Adult Education. However, the opinions expressed herein do not necessarily reflect the position or policies of the Missouri Department of Elementary and Secondary Education or the Division of Career and Adult Education, and no official endorsement should be inferred."

Appendix A

FORESTRY

I. The Importance of the Forestry Industry

II. Ordering and Planting Trees

III. Identifying Missouri Trees

IV. Forestry Tools and Equipment

V. Measuring Standing Timber and Logs

VI. Timber Stand Improvement (T.S.I.) Principles

VII. Growing and Marketing Christmas Trees

VIII. Producing Walnut Timber

CORN AND SORGHUM PRODUCTION

I. Economic Considerations in Production
   - A. How much corn is produced in the United States and Missouri and where is it produced?
   - B. How much sorghum is produced in the United States and Missouri and where is it produced?
   - C. What are the uses of corn?
   - D. What are the uses of sorghum?
   - E. What are the occupational opportunities related to corn and sorghum production?

II. Seed Selection
   - A. How do you select the desired seed corn?
   - B. How do you select the desired sorghum seed?
   - C. What information is available on seed containers?

III. Preparation of Seed Bed
   - A. What are the characteristics of a good seed bed?
   - B. What are the advantages and disadvantages of using conventional, minimum tillage, or no till systems?
   - C. How do you prepare a seed bed using conventional tillage?
   - D. How do you prepare a seed bed using minimum tillage?
   - E. What preparation of seed bed is needed for no till systems?

IV. Applying Fertilizer
   - A. What are the nutrient needs of corn and sorghum?
   - B. How do you identify nutrient deficiencies?
   - C. What are the different types of fertilizers and where are they applied?
   - D. What are the safety procedures to follow when handling fertilizer?
   - E. How do you determine fertilizer costs and rates of application?
   - F. How do you calibrate machinery and apply fertilizer?

V. Weed Control
   - A. Why do you need to control weeds?
   - B. What are the major needs of corn and sorghum?
   - C. How do you select cultural or chemical controls?
   - D. What herbicides should be used?
   - E. What are the requirements and licenses needed for herbicide application?
   - F. What are the methods and equipment needed for herbicide application?
   - G. What are the safety procedures to follow when applying herbicides?

VI. Planting
   - A. How does conventional planting compare with minimum and no till planting?
   - B. What are the effects of planting dates, row spacing, and plant populations on yields?
   - C. What are the methods and equipment used in planting?

VII. Insect and Disease Control
   - A. Why do you need to control insect pests?
   - B. What are the major insect pests and diseases of corn and sorghum?
   - C. How do you control insects?
   - D. How do you control diseases?

VIII. Licensing Requirements and Safe Use of Pesticides
- A. What are the licensing requirements?
- B. What are the safety procedures?
- C. What are the methods and equipment needed for applying insecticides and fungicides?

IX. Irrigation
- A. How do you determine the economic feasibility of irrigation?
- B. What are the moisture requirements of corn and sorghum?
- C. What are the different types of irrigation systems and their advantages?
- D. How do you maintain good irrigation practices?
- E. Is there any advantage in apply fertilizer and pesticides through irrigation?

X. Harvesting, Storing, and Drying
- A. How do you determine harvesting losses and the best time to harvest?
- B. What are the desirable moisture contents for crop harvesting and storage?
- C. What are the different types of drying systems and their advantages?
- D. What are the different types of harvesting methods and storage facilities?
- E. What are the economic considerations for deciding about home storage?
- F. What are the different types of storage damage and how do you prevent or control these problems?
- G. How are corn and sorghum used for silage?
- H. How is silage stored and fed?

XI. Marketing
- A. Where do you get marketing information?
- B. How do you identify marketing trends?
- C. What are the grade requirements?
- D. What are the different types of marketing methods?

XII. Budgeting
- A. How do you determine the costs of production?
- B. What are your profit potentials?

SOYBEAN PRODUCTION

I. Economic Considerations in Production
   - A. How many soybeans are produced in the United States and Missouri and where are they produced?
   - B. What are the uses of soybeans?
   - C. What are the occupational opportunities related to soybean production?

II. Seed Selection
   - A. How do you select the desired soybean seed?
   - B. What information is available on seed containers?

III. Preparation of Seed Bed
   - A. What are the characteristics of a good seed bed?
   - B. How do you prepare the seed bed using conventional tillage?
   - C. How do you prepare the seed bed using no till?

IV. Soil Fertility
   - A. How do you determine the soil fertility for growing soybeans?
   - B. What nutrients might be needed and how are they applied?

V. Weed Control
   - A. Why do you need to control weeds?
   - B. What are the major weeds of soybeans?
   - C. How do you select cultural or chemical control?
   - D. What herbicides are needed?
   - E. What are the requirements and licenses needed for herbicide application?
   - F. What are the methods and equipment needed for herbicide application?
   - G. What are the safety procedures?

VI. Drilling
   - A. How does conventional drilling compare with no till drilling?
   - B. What are the effects of drilling dates, row spacing and plant populations on yields?
   - C. What are the methods and equipment used in drilling soybeans?

VII. Insect and Disease Control
   - A. Why do pests need to be controlled?
   - B. What are the major insects and diseases of soybeans?
   - C. How do you control insects?
   - D. How do you control diseases?

VIII. Licensing Requirements and Safe Use of Pesticides
   - A. What are the licensing requirements?
   - B. What are the safety procedures?
   - C. What are the methods and equipment needed for application of insecticides and fungicides?

IX. Irrigation
   - A. How do you determine the economic feasibility of irrigation?
   - B. What are the moisture requirements of soybeans?
   - C. What are the different types of irrigation systems and their advantages?
   - D. How do you maintain good irrigation practices?
   - E. Is there an advantage in applying fertilizer and pesticides through irrigation?

X. Harvesting, Storing and Drying
   - A. How do you determine harvesting losses and the best time to harvest?
   - B. What are the desirable moisture contents for crop harvesting and storage?
   - C. What are the different types of harvesting methods and storage facilities?
   - D. What are the different types of drying systems and their advantages?
   - E. What are the economic considerations in deciding about home storage?
   - F. What are the different types of storage damage and how do you prevent or control these problems?

XI. Marketing
- A. Where do you get marketing information?
- B. How do you identify marketing trends in the U.S. and the world?
- C. What are the grade requirements?
- D. What are the different types of marketing methods?

XII. Budgeting the Soybean Crop
- A. How do you determine the costs of production?
- B. What are your profit potentials?

SOIL CONSERVATION UNIT

I. Soil, Plants, and Man--Major Land Uses
   - A. The food chain
   - B. Recreational uses
   - C. Man's record

II. Reasons to Conserve Soil
   - A. Soil loss and crop productivity
   - B. Soil loss as a source of pollution
   - C. Soil loss in Missouri
     1. Loss in terms of dollars
     2. Loss in terms of future productivity

III. Mechanisms of Soil Erosion
   - A. Wind mechanisms
   - B. Water mechanisms

IV. Physical Characteristics of Soil and Soil Loss
   - A. Particle size and distribution (aggregation)
   - B. OM
   - C. Density--permeability
   - D. Classification
   - E. Structure

V. Soil Surveys and Soil Types
   - A. Information included in a soil survey
   - B. Classification of soils according to erodibility

VI. Land Evaluation
   - A. Topography
   - B. Land use capability classes
   - C. Matching crops to the land

VII. Government Agencies and Programs
   - A. S.C.S.
   - B. Other agencies and programs
   - C. Economic incentives (Short term vs long run)

VIII. Legal Responsibilities
   - A. Soil conservation
   - B. Water management

IX Erosion Control Structures
   - A. Terraces
   - B. Waterways
   - C. Dams

X. Tillage Practices and Erosion Control
   - A. Effect of conventional tillage
   - B. Reduced tillage
   - C. No-till
     1. Role of cover in erosion control
     2. Role of residue in erosion control (corn vs soybeans)

XI. Cropping Systems for Erosion Control
   - a. Rotations
   - b. Strip cropping
   - c. Soil testing and fertility

XII. Planning a Farm Program
   - a. Is there a tolerable soil loss?
   - b. USLE

FORAGES

I. Importance of Forages
   - A. What is a forage crop?
   - B. Describe five ways of utilizing forage crops.
   - C. Differentiate between pasture, hay land, and rangeland.
   - D. What is meant by the term grassland agriculture?
   - E. Discuss why forages are important to Missouri agriculture.

II. Important Forage Plants
   - A. Distinguish between a cool-season grass and a warm-season grass.
   - B. Identify important cool-season perennial grasses and describe their advantages and disadvantages.
   - C. Identify important warm-season perennial grasses and describe their advantages and disadvantages.
   - D. Identify important annual grasses and describe their advantages and disadvantages.
   - E. Identify important legumes and describe their advantages and disadvantages.

III. Selecting Forage Crops For New Pastures
   - A. What are some factors that will affect your selection of forage species?
   - B. What are some advantages of pure stand and grass-legume mixtures?
   - C. What fundamental principles or rules should you follow when establishing forage mixtures?
   - D. Why should only one grass be used in a mixture?
   - E. Considering all factors, what forages (pure stands or mixed) would you recommend in your county and why?
   - F. Why is a "shotgun" seed mixture used?

IV. Establishing and Maintaining Alfalfa
   - A. How is alfalfa forage utilized?
   - B. Discuss soil characteristics suitable for alfalfa production.
   - C. How should the seed bed be prepared?
   - D. What is nitrogen fixation and why are legume seeds inoculated?
   - E. Why is it important to take cattle off alfalfa or make a last cut well before the average frost date?
   - F. List important considerations for harvesting alfalfa hay.
   - G. List important insects and diseases that hamper alfalfa production.

V. Establishing and Managing Cool Season Forages
   - A. Compare bluegrass and fescue as cool season grass pastures.
   - B. What is a companion crop and how is it used?
   - C. Discuss combining bluegrass with a legume forage crop.
   - D. Discuss the adaptation and use of fescue in a forage system.
   - E. When is it most desirable to maintain a legume with fescue?
   - F. List some fescue/legume mixtures.
   - G. When should a fescue/legume pasture be seeded?
   - H. List the advantages and disadvantages of various seeding methods.
   - I. Discuss forage crop seedbed preparation.
   - J. What are the three most serious problems for newly established forage stands?
   - K. Discuss fertilizer and lime application newly established forages.

VI. Establishing and Managing Native Grasses
   - A. What three native grasses have the most promise for production in Missouri?

B. Describe some specific characteristics of native grasses.
C. Discuss the use of native grasses as forage.
D. Discuss practices for establishing stands of native grasses.
E. Discuss grazing management of native grass pastures.

VII. Establishing and Managing Warm Season Annuals
A. List three general groups of warm season annuals and give their characteristics.
B. Discuss the seeding of warm season annuals.
C. Discuss the fertility of warm season annuals.
D. Describe the grazing management system that is recommended for warm season annual forages.
E. List some considerations for using warm season annuals as a hay or silage crop.
F. How do prussic acid poisoning (HCN) and nitrate poisioning occur?
G. What steps can be taken to minimize HCN and nitrate poisoning?

VIII. Producing Forage Seed Crops
A. Why and how should seed crop grass stubble be clipped?
B. Discuss nitrogen fertilization of cool season grasses which are cultivated for a seed crop.
C. List important considerations for harvesting and handling forage seed crops.
D. What is heating and how can it be prevented?
E. What cool season grasses can be grown for a seed crop?
F. Discuss the storage of harvested forage seeds.

IX. Fescue Toxicity
A. What are the problems caused by fescue toxicity?
B. What are the symptoms of fescue toxicity?
C. What are the management control practices for each fescue toxicity problem?

X. Pasture Renovation
A. Why do you need to renovate pastures?
B. What are the methods for renovating pastures with legumes?
C. What are some specific methods of renovating fescue pastures?
D. How do you manage newly renovated pastures?

XI. Year-Round Forage Systems
A. What are the basic principles of pasture management?
B. How do stocking rates for livestock affect pasture utilization?
C. What are the different grazing systems?
D. How can crop residues be efficiently used?
E. How can green chop be used?
H. What are the seasonal availabilities of some common forages?

XII. Harvesting and Storing Hay
A. What is the importance of hay in the U.S. and in Missouri?
B. What characteristics are associated with high quality hay?
C. What factors affect hay quality?
D. How is hay divided into groups and grades?
E. How is hay forage tested for quality?
F. What are the different systems of harvesting hay and how do they compare?

XIII. Haylage and Silage
A. What are the advantages and disadvantages of grass silage?
B. What crops are used for grass haylage and silage?
C. How is silage preserved through the ensiling process?
D. How is grass silage made?

E. What are the advantages and disadvantages of different methods of making silage?
F. What are silage additives and how are they used?
G. How is silage quality evaluated?
H. How are haylage and silage stored?

Appendix C

CLERICAL/SECRETARIAL FIELD TEST COMMITTEE

Mrs. Wilma Wilcoxsin
Jackson R-2 High School
Jackson, MO 63755

Mrs. Beverly Wait
Kirksville Area Vocational-Technical School
Kirksville, MO 63501

Mrs. Terry C. Barton
Hillsboro R-3 High School
Hillsboro, MO

Mrs. Dianne King
Macon Area Vocational-Technical School
Macon, MO 63552

Mrs. Diana Schroeder
South Central Vocational-Technical School
West Plains, MO 65775

Mrs. Judy Bradley
Graff Vocational-Technical School
Springfield, MO 65802

Mrs. Elizabeth Mauzey
Northwest Missouri Area Vocational School
Maryville, MO 64468

Mrs. Betty Smoot
Ellisville High School
Ellisville, MO 63011

Mrs. Lois Simpson
Ozark High School
Ozark, MO 65721

Mrs. Hedy Rackers
Columbia Public Schools
Columbia, MO 65201

EVALUATION FORM

COMPREHENSIVE GUIDE FOR JUNIOR HIGH PROGRAMS

Evaluator's Name: _____ Home Phone: ( ) _____

Home Address: _____ School Phone: ( ) _____

School Name and Address: _____

Planning Period (time): _____ Grade Level: _____

Average Class Size: _____ Number of Students Field Tested: _____

Section A: Please evaluate <u>each</u> <u>section</u> you tested according to the following criteria:

4 = Excellent, needs no improvement

3 = Good, but here are my suggestions...

2 = OK, but here are my suggestions...

1 = Rewrite, I suggest...

N = Cannot judge based on my field test effort.

Circle the appropriate response; please comment. Add extra pages where needed or refer to notes on returned copy.

Section Taught: _____ Unit and/or Lessons: _____

I. Content

Is suitable to the maturity level of students 4 3 2 1 N

Comments:

Is applicable to the learner's level of ability 4 3 2 1 N

Comments:

Encourages further study and thinking at higher levels of the cognitive, affective, and/or psychomotor domains.	4	3	2	1	N

Comments:

Is accurate.	4	3	2	1	N

Comments:

Is Timely (current and oriented to future.)	4	3	2	1	N

Comments:

Follows competency list.	4	3	2	1	N

Comments:

Is evaluated appropriately.	4	3	2	1	N

Comments:

II. Format Components

Student objectives are clear and stated behaviorly. 4 3 2 1 N

Comments:

Activities are creative and appropriate. 4 3 2 1 N

Comments:

Illustrations contribute to clarifying material. 4 3 2 1 N

Comments:

Content outlines are complete. 4 3 2 1 N

Comments:

Transparencies assist in clarifying content. 4 3 2 1

Comments:

Assignment sheets easily completed.	4	3	2	1	N

Comments:

Sequence of material is orderly.	4	3	2	1	N

Comments:

Directions are clear.	4	3	2	1	N

Comments:

References provided are helpful.	4	3	2	1	N

Comments:

Suggested teaching techniques are helpful and inspiring.	4	3	2	1	N

Comments:

As written, guide is useful in different class structures (9, 12, 18, 36 weeks). 4 3 2 1 N

Comments:

Section B: Please make suggestions about the following teaching responsibilities. Keeping daily or weekly recorded remarks may facilitate this effort. Identify section, unit, or lesson to which you make the suggestion.

Sections taught: _____

_____

_____

_____

Corresponding Units and Lesson _____

_____

_____

_____

1. Alternative scheduling.

2. Alternative teaching methods.

3. Recordkeeping methods.

4. Unit organization.

PROPERTIES OF MAJOR TEXTILE FIBERS
TABLE OF CONTENTS

I. Textile Terms and Definitions

II. Properties of Natural Fibers

A. Objective/Narrative

B. Narratives and Transparency Masters

Wool Silk	Protein Fibers
Linen Cotton Ramie	Cellulosic Fibers
Natural Novelty Fibers	Protein/Cellulosic Fibers (Hand Out)

C. Sample Garment Label - Transparency Master (Natural & Synthetic)

D. Production: Raw Material to Fabric - Transparency Master

E. Topics for Further Study

III. Properties of Man-made Fibers

A. Objective/Narrative

B. Narratives and Transparency Masters

Rayon and Modified Rayon Acetate and Triacetate	Cellulosic Fibers: Man-Made
Nylon Polyester Acrylic Modacrylic Olefin Spandex Aramid	Petroleum-Based Fibers: Synthetic
Glass Metallic	Mineral & Metal Fibers Transparency only

D. Generic names of man-made fibers: Transparency Master

E. Production - Raw Material to Fabric - Transparency Master

F. Suggestions for Further Study

IV. Bibliography

DRAFTING AND DESIGN OUTLINE

I. ORIENTATION

A. Purpose of Drafting

1. Teach the language of the industry
2. Artistic and technical drawing
3. Parts of a technical drawing
   a.) size
   b.) shape
4. Aims of technical drawing
   a.) accuracy
   b.) technique
   c.) neatness
   d.) speed

B. Career Opportunities

1. Fields of drafting
2. Job titles
3. Job duties
4. Professional development

C. The Design Process

D. Sketching

E. Lettering

F. Equipment and Materials

1. Drafting instruments
2. Drafting reproduction
3. Computer Aided Drafting (CAD)

G. Specifications and Standards

II. MECHANICAL DRAFTING

A. Sketching

1. Freehand applications
2. Sketch materials
3. Proportion in sketching
4. Orthographic sketching techniques
5. Pictorial sketching techniques

B. Equipment and Materials

1. Use and care of drafting equipment
   a.) drafting pencils
   b.) erasers and shields
   c.) drafting machines
   d.) scales
   e.) compasses and dividers
   f.) templates
   g.) inking equipment
   h.) CAD
   i.) pin registry (registration)
2. Drafting media - kinds and sizes

C. Lettering

1. Importance of good lettering
2. Origin of alphabets and letters
3. Lettering styles
4. Forming letters
5. Spacing letters and words
6. Drawing notes
7. Mechanical lettering devices

8. Transfer letters

9. Microfilm lettering

D. Geometry of Drafting

1. Purpose and use of geometric construction

2. Kinds of geometric shapes

3. Tangents

4. Ellipses

E. Specifications and Standards

1. Types of standards manuals

2. Applications for the American National Standard Institution Drafting Manual

3. Uses of machinery's handbook

F. Alphabet of Lines

1. Identification of Lines

2. Width of lines

3. Precedence of lines

G. Drawing Reproduction

1. Types and reasons for drawing reproductions

a.) blue print

b.) white print - ammonia process

c.) CAD print-out

1.) printer

2.) plotter

2. Line quality considerations

3. Drawing storage systems

a.) drawings and prints

b.) microfilm aperture cards

c.) CAD systems

III. SHAPE DESCRIPTION MULTIVIEW

A. Principal Views

1. Theory of orthographic view relationships

a.) planes of orthographic projection

b.) arrangement of views

c.) principal dimensions of orthographic views

d.) types of projection

e.) principles of reference planes and fold lines

f.) principles for determining visibility of views

2. Classification of surfaces and lines

a.) normal

b.) oblique

c.) inclined

d.) cylindrical

3. Selection of appropriate views

a.) uses of one view drawings

b.) uses of two view drawings

c.) partial views

d.) alternate orthographic views

e.) uses of removed views

B. Sections and Conventions

1. Section views

a.) types and uses of section views

b.) principles of visualizing section views

c.) cutting plane and section lining symbols

2. Conventions of section views

a.) principles involving deletion of lines

1.) visible

2.) hidden

3.) center

b.) methods of showing standard parts in section

C. Auxiliary Views

1. Definition of auxiliary views

2. Reasons for drawing auxiliary views

3. Classifications of auxiliary views

4. Theory of projecting and transferring measurement in auxiliary views

IV. SHAPE DESCRIPTION PICTORIALS

A. Principles of Pictorial Drawings

1. Uses of pictorial drawings

2. Principles of selecting best pictorial form

3. Principles of centering drawing on sheet

4. Drawings vs. projections

B. Axonometric Drawings

1. Types of axonometric drawings

a.) isometric

b.) dimetric

c.) trimetric

2. Selecting best axonometric axes

3. Centering axonometric drawings

4. Methods of constructing axonometric drawings

5. Nonaxonometric lines

6. Axonometric circles and curve constructions

C. Oblique Drawings

1. Types of obliques

   a.) advantages and disadvantages of oblique drawings

   b.) principles for positioning oblique drawings

2. Steps in drawing circles on receeding surfaces of an oblique drawing.

D. Perspective Drawings

1. Theory of perspective projection

2. Purpose, value and application of perspectives

3. Principles for locating station points and horizon

4. Measuring lines and points

5. Steps in locating inclined lines and planes in perspective

6. Steps in locating circular features in perspective

E. Renderings

1. Types of rendering

2. Continuous tone rendering to various geometric solids

3. Rendering curved surfaces on pictorial--holes, fillets, rounds, threads, and springs

4. Patterns for self-adhesive shading

5. Airbrush techniques

V. SIZE DESCRIPTION

A. Principles of Dimensioning

1. Importance of exactness and clearness of dimensions

2. Differences between size and location dimensions

3. Principles of spacing and sequencing

4. Principles of base line dimensioning

   a.) datum line dimensioning

   b.) polar coordinates

5. Reading direction of dimensions

a.) aligned

b.) unidirectional

6. Dimensioning in limited space

7. Principles of numerical control dimensioning

8. Special dimensions

a.) reference dimensions

b.) superfluous dimensions

c.) tubular dimensions

d.) metric dimensions

e.) special requirement for patterns and castings

B. Tolerances

1. Principles of dimensional mating parts

2. Expressing tolerances

3. Standard fits

4. Decimal dimensioning

5. True position dimensions

a.) principles of true position dimensioning

b.) symbols for true position dimensioning

C. Drawing Notes

1. Location and wording for local and general notes

2. Standard abbreviations used in dimensioning and notes

3. Symbols and scales for degree of finish with finish marks

VI. COMPUTER AIDED DRAFTING (CAD)

A. Introduction to Computer Aided Drafting

1. Definitions

2. Computer Classifications

3. Conventional Drafting and CAD

4. Computer Benefits and Applications

B. The CAD System

1. Typical hardware configuration
2. Software
3. User

C. CAD Input Devices

1. Keyboard operation
2. Disk operation
3. Digitizing tablet operation
4. Paddle operation
5. Joy stick operation
6. Cross hairs operation

D. Software Operation

1. Input information
2. Manipulating menus
3. Generating a drawing
   a.) digitizer/trace
   b.) digitizer/menu
   c.) programming
4. Selection and operation of output devices
   a.) printer
   b.) plotter
   c.) screen
   d.) disk

E. Relationship of CAD/CAM (Computer Aided Drafting/Computer Aided Manufacturing)

F. Computer-Aided Manufacturing-Numerical Control-Robotics

VII. MACHINE DRAFTING AND DESIGN

A. Production drawings

1. Types and uses of industrial drawings
2. Steps in evolution of an idea from design to product drawing
3. Elements of an engineering drawing control system (drawing schedule)
4. Systems for checking and marking drawings
5. Methods of specifying revisions on drawings

B. Intersections and developments

1. Geometric solids, plane figures and surfaces
2. Finding true lengths of lines
3. Methods of developing surfaces
4. Transition pieces
5. Air duct layout

C. Product design

D. Kinematics

E. Production processes and materials

1. Principles of designing for shop processes
   a.) pattern shop and drafting procedures
   b.) shearing and forming process and drafting procedures
   c.) shaping processes and drafting procedures
   d.) fabrication processes and drafting procedures
   e.) finish processes and drafting procedures
2. Materials
   a.) shapes and forms of common stock
   b.) ferrous and nonferrous metals

3. Tools

a.) names and uses of precision measuring equipment

b.) types of fits

c.) machine tool processes

d.) purposes of jigs and fixtures

F. Fasteners and Fabrications

1. Types of threaded fasteners

2. Terminology of fasteners

3. Types of nonthreaded fasteners

4. Types of joints and welds used in fastening

G. Machine Elements - Cams, Gears, Springs

1. Cams

a.) cam terminology

b.) types and uses of cams

c.) cam shapes and displacement diagrams

d.) factors governing cam sizes

2. Gears

a.) gear terminology

b.) types of gears

c.) characteristics and uses of gears

d.) materials used to manufacture gears

e.) principles of gear design

f.) methods of specifying gear data

g.) formula for figuring gear ratios

3.) Springs

a.) types of springs

b.) application of springs

c.) size and specification of springs

PART VII - THEORIES OF LINES AND PLANES

A. Principles of Descriptive Geometry

1. Points
2. Lines
3. Planes

B. Theory of Reference Planes and Folding Lines

C. Applications of Primary Auxiliary Views

D. Applications of Secondary Auxiliary Views

E. Applications of Descriptive Geometry

1. True length line
2. Point view line
3. Edge view of plane
4. Plane true size

F. Geometry of Lines

1. Intersecting and nonintersecting lines
2. Principles for identifying perpendicular
3. Angles lines make with reference planes
4. Angles lines make with planes
5. Definitions and uses of bearing and slope of lines

G. Geometry of Planes

1. Methods of representing a plane
2. Types of names of planes
3. Angles planes make with reference planes
4. Angles planes make with planes

H. Principles of Revolution

1. Purposes of revolution method
2. Elements of revolution

3. Axis of revolution

4. Extrem e positions on path of revolution

5. Surfaces generated by a line revolved about another line.

IX. Structural Drafting

A. Structural Steel

1. Fram ing

2. Erection

3. Beam

4. Colum n

B. Structural Concrete

1. Precast

2. Poured in place

C. Structural Wood

1. Trusses

2. Lam inated m em bers

D. Em ploym ent Opportunities

1. Requirem ents

2. Availability

X. PIPE LAYOUTS

A. Principles of Piping

1. Sym bols

2. Dim ensioning standards

3. Factors in arranging and spacing pipe

B. Pipe Features

1. Types of pipe fittings

2. Types and functions of valves

3. Materials of pipes, fittings and valves

4. Sizes of pipes, fittings and valves

5. Principles of selecting valves, fittings and pipes

C. Joining Pipes and Fittings

1. Standard abbreviations for threads

2. Uses of straight and tapered pipe threads

3. Types of flanges and flange facings

4. Standard pipe detail welding

5. Standard solder joint symbols

D. Pipe drawing

1. Single line drawing

2. Double line drawing

3. Orthographic

4. Develop view

5. Isometric drawing

XI. ELECTRICAL AND ELECTRONIC DRAFTING

A. Theories of Electricity and Electronics

1. Electron theory

2. Occupational opportunities

3. Block diagram

B. Schematic Diagrams

1. Symbols

2. Balance, grouping, alignment

3. Parts

C. Printed Circuit

1. Master layout

a.) foil width, spacing, pad size

b.) component arrangement

c.) foil connection

d.) scale

2. Assembly layout

a.) top view of component

b.) component identification overlay

3. Drilling drawing

4. Component drawing

D. Industrial Diagrams

1. Highway

2. Base line

3. Point to point

4. Single line construction drawing

XII. CIVIL DRAFTING

A. Civil Engineering

1. Scope and function

2. Historical development

3. Relationship to architectural and structural drawings

B. Standard Procedures

1. Handbooks

2. Engineering data

3. Measurements

a.) Civil scales

b.) SI Metrics

c.) Survey data

d.) Templates

e.) Specialized equipment

C. Topographic Drawings

1. Terminology
2. Sources of data
3. Data interpretation
4. Standard drafting procedures

D. Area & Plot Drawing

1. Terminology
2. Sources of data
3. Data interpretation
4. Standard drafting procedures

E. Excavation Drawings

1. Terminology
2. Sources of data
3. Data interpretation
4. Standard drafting procedures

F. Civil Drafting Applications

1. Building construction
2. Drainage systems
   a.) surface
   b.) underground
3. Transportation system
   a.) land (roads & railroads)
   b.) water
   c.) airport

XIII. ARCHITERTURAL-RESIDENTIAL

A. Home Planning

1. Site planning

a.) community

b.) fitting the house to the lot

2. Interior area design

a.) living

b.) service

c.) sleeping

3. Exterior design

a.) building styles

b.) roofs

c.) doors and windows

d.) structural materials

B. Standards of Working Drawings

1. Lettering

2. Symbols for plans

3. Architectural dimensioning

4. Architectural symbols

5. Types of details

6. Specifications

C. Residential working drawings

1. Floor plan

2. Elevations

3. Details drawings

a.) wall section

b.) fireplace detail

c.) stair detail

4. Foundation and footing

5. Framing

6. Electrical

7. Plumbing

8. Heating and air conditioning

9. Plot plan

10. Perspective

D. Specifications

1. Window schedule

2. Door schedule

3. Loads and strengths of materials

E. Supplemental Topics

1. Business considerations in purchasing a home

2. Cost estimation methods

3. Presentation drawings

4. Models

5. Career opportunities

XIV. ARCHITECTURAL-COMMERCIAL

A. Commercial Structural Systems

1. Foundations

2. Steel systems

3. Concrete systems

4. Wood systems

B. Electrical and Mechanical Systems

1. Electrical

2. Plumbing

3. Environmental control

C. Architectural Services

1. Legal obligations and requirements

2. Plans and specifications

3. Models and presentations

D. Commercial Facility Design

1. Determining function requirements

2. Interior consideration

3. Exterior image

XV. AEROSPACE DRAFTING

A. Basic Theories of Aerospace Drafting

1. Theory of flight

2. Aircraft design

3. Nomenclature

B. Forming Aircraft Parts

1. Methods of forming

2. Bend allowance

3. Relief holes

4. Lightening holes

C. Fastening Aircraft Parts

1. Methods of fastening

2. Rivet spacing

D. Aerospace Drawings

1. Views of the aircraft

2. Types of drawings

3. Numbering system

E. Fuselage

1. Reference lines

2. Layout

3. Fairing

F. Bulkheads

1. Reference lines and ordinates
2. Layout
3. Fairing

G. Wing

1. Reference lines and ordinates
2. Wing layout
3. Airfoil ordinate tables
4. Airfoil layout

XVI. TECHNICAL ILLUSTRATION

A. Types of Illustrations

1. Publication
2. Engineering

B. Illustration Construction Procedure

1. Purpose
2. Study material
3. Freehand sketches
4. Instrument drawing
5. Final tracing
6. Lettering
7. Mounting

C. Shading Techniques

1. Exterior
2. Solid line
3. Surface
4. Stippling
5. Smudging

6. Stick-on

7. Air brush

D. Kinds of Drawings

1. Exploded

2. Cutaway

3. Exterior assembly

4. Combination

A CONTENT OUTLINE FOR METALS CURRICULUM GUIDE FOR INDUSTRIAL ARTS

INTRODUCTION

I. Point of View and Objectives

II. Levels of Metals Technology

- A. Level I - exploring
- B. Level II
- C. Level III
- D. Level IV

PART ONE: ACTIVITIES COMMON TO ALL METALS

I. Introduction to Metalworking

- A. History of metals
- B. Related occupations/manufacturing
- C. General Safety in metalwork

II. Metals

- A. Ferrous
- B. Non-ferrous
- C. Identification of metals
- D. Testing

III. Planning in Metalwork

- A. General information
- B. Reading drawings
- C. Product planning

IV. Measurement and Layout

- A. General information
- B. Measuring systems
- C. Layout tools
- D. Layout techniques
- E. Micrometers and veniers
- F. Tolerance and allowances

V. Metal Processes

- A. General information
- B. Industrial processes (overview)

VI. Fitting and Assembling

- A. General information
- B. Fits and fittings
- C. Fasteners

VII. Finishing Metals

- A. General information
- B. Reasons for finish
- C. Surface preparation
- D. Mechanical finishing
- E. Electro-chemical finishes
- F. Application of finishes
- G. Drying

PART TWO: CRAFT METALS

I. Introduction to Craft Metals

II. Art Metalwork

- A. General information
- B. Art metalwork processes
- C. Art metal tools
- D. Fastening

III. Machine Forming

- A. General information
- B. Spinning
- C. Stamp forming

PART THREE: BENCH METALWORK

I. Introduction to Bench Metalwork

II. Clamping Devices

- A. General information
- B. Vises
- C. Clamps
- D. Pliers

III. Cutting and Striking Bench Tools

- A. General information
- B. Files
- C. Chisels
- D. Hammers
- E. Hacksaws

IV. Abrading/Grinding

- A. General information
- B. Properties of abrasives
- C. Kinds of abrasives
- D. Grain size
- E. Coated abrasives
- F. Grinding wheels

V. Assembly Tools

A. General information
B. Wrenches
C. Pliers
D. Screwdrivers

VI. Threads and Thread Cutting

A. General information
B. Screw threads - nomenclature
C. Threads - forms
D. External threading with dies
E. Internal threading with taps

VII. Cold Forming Processes

A. General information
B. Bending and twisting

PART FOUR: SHEET METALS

I. Introduction to Sheet Metals

II. Types of Sheetmetal

A. Ferrous
B. Nonferrous
C. Identification

III. Measurement and Layout

A. Tools
B. Processes

IV. Pattern Development

A. Simple or direct
B. Parallel line development
C. Radial line development
D. Triangulation

V. Cutting Sheetmetal

A. Hand cutting
B. Machine cutting

VI. Bending and Forming Sheetmetal

A. Bending
B. Forming

1. Pressworking processes
2. Presses

PART FIVE: MACHINING OF METALS

I. Introduction to Machining of Metals

II. Machining Metals: Basic Processes

A. General information
B. Machining plan
C. Drilling and boring
D. Sawing metal
E. Turning (lathe)
F. Milling (mill)
G. Shaping, planning, slotting, and broaching
H. Precision grinding

III. Machining of Metals: Emerging Machining Processes

A. General information
B. Electrical machining

1. Electrical discharge machining (EDM)
2. Electrochemical machining (ECM)
3. Electrochemical grinding (ECG)
4. Electron beam machining (EBM)

C. Laser beam machining (LBM)
D. Ultrasonic machining (USM)
E. Chemical machining (CHM)
F. Processes in development

1. Plasma arc machining
2. Abrasive jet
3. Abrasive flow

IV. Control and Automation of Machining Process

A. General information
B. Principles of automation
C. Numerical control (N/C)

1. Computer numerical control (CNC)
2. Direct numerical control (DNC)

D. Numerical programming

1. Positioning systems
2. Point to point
3. Contouring

E. Integrated systems

1. CAD
2. CAM
3. Flexible manufacturing

PART SIX - HOT METALS

I. Introduction to Hot Metals

II. Forging Practices

A. General information
B. Forging and forging tools
C. Hand forging
D. Industrial forging processes

III. Foundry Practices

A. General information
B. Casting processes

1. Sandcasting
2. Diecasting
3. Others (see Manufacturing Processes by Johnson)

C. Patterns and molds

1. Permanent molding
2. Injection molding

D. Sands
E. Melting and Pouring Metal
F. Industrial foundry machines

IV. Heat Treatment

A. General information
B. Heat-treatment processes
C. Metals that can be heat-treated
D. Furnaces
E. Testing metal properties

V. Welding

A. General information
B. Oxyacetylene welding
C. Arc welding

1. Types
2. Operations or methods
3. Equipments
4. Arc welding electrodes
5. Flame and arc cutting principles
6. Safety

VI. Other Hot Metal Processes

A. Extrusion
B. Others

PART SEVEN: PRODUCTION TECHNOLOGY

I. Introduction to Production Technology

II. Production Categories

A. Craft
B. Mass

III. Materials Handling

A. Conveyors
B. Robots

IV. Robotics

V. Management

A. Personnel
B. Planning
C. Production
D. Procurement

VI. Labor Aspects

A. Unions
B. Productivity

PART EIGHT: APPENDICES

Appendix I

Free and Inexpensive Learning Materials
Magazines and Newspapers
Professional Publications
Audio-visual sources

Appendix II

Publishers Address List

Appendix III

Metal Equipment List
Tool List
Textbooks and Reference Books

OUTLINE
LPN/ADN ARTICULATION PROJECT
(Revised July 26, 1984)

MODULE I: ROLE OF THE ASSOCIATE DEGREE NURSE

I. Philosophy and conceptual framework of particular ADN program

(insert individual program's philosophy and conceptual framework)

II. Roles and responsibilities of Associate Degree Nursing practice including the Nurse-Practice Act and ethical aspects

III. Transition from LPN to ADN (R.N.)

- A. Compare - LPN & ADN roles
- B. Discuss - should be interaction with instructor
- C. Role change
- D. Decision-making process

MODULE II: COMMUNICATION SKILLS

I. Communication process

II. Types of Communication

- A. Verbal
- B. Nonverbal
- C. Therapeutic
- D. Nontherapeutic

III. Factors affecting communication

- A. Defense mechanisms - overview
- B. Anxiety
- C. Stress

IV. Process recordings - practicum

(insert individual program's process recording form)

V. Client teaching - teaching plan

(insert individual program's teaching plan)

VI. Documentation

A. Recording

B. Reporting

C. Assess learning needs

D. Planning, implementing and evaluating teaching plan

MODULE III: NURSING PROCESS

I. Overview of nursing process

II. Assessment phase

III. Nursing diagnosis

A. How to write a nursing diagnosis

B. List of accepted nursing diagnoses

IV. Planning phase

V. Implementation phase

VI. Evaluation phase

VII. Nursing care plan (how to)

(insert individual program's nursing care plan)

VIII. Practicum - number of hours are optional

MODULE IV: MEDICATION ADMINISTRATION

I. Responsibilities of the RN in medication administration, including legal aspects; emphasis on role change

II. Review of classifications and actions

III. Calculations and conversions, including fluid and drug administration rates

- A. Adults
- B. Children
- C. Review - sample caluclations
- D. Practicum (optional)

IV. Drug abuse/misuse

CONTENT OUTLINE
RADIOLOGY AIDE

I. Historical Foundations and Overview of Radiology (including discovery - who, where, when)

II. General Terminology Used in Radiology

III. Telephone Techniques

- A. Identifying self, department
- B. How to take messages correctly

IV. Film Filing

- A. Film jacket filing
- B. Patient ID card file
- C. Other filing

V. Darkroom Procedure

- A. Light conditions
- B. Handling cassettes
- C. Processing
- D. Loading cassettes
- E. Film handling
- F. Storage of film

VI. Radiation Protection

- A. Awareness
- B. Answering patients' questions
- C. Self-protection
- D. Patient protection
- E. Dispelling myths
- F. Badges

VII. Infection Control

VIII. Transporting Patients

IX. Preparing a Patient for Examination (standard)

X. Familiarity with Radiology Procedures and Therapies

- A. Orientation to procedural manual
- B. Upper-GI
- C. Lower-GI

XI. Equipment Identification (routine)

XII. Equipment Cleaning (routine)

XIII. Computer Awareness (awareness of all aspects of computer use in a Radiology dept.)

CONTENT OUTLINE
RESPIRATORY THERAPY AIDE

I. Historical Foundations and Overview of Respiratory Therapy

- A. Levels of certification and educational requirements for each
  1. Technician
  2. Therapist

II. Terminology Used in Respiratory Therapy (standard terms)

III. Infection Control (basic information)

IV. Telephone Technique

- A. Identifying self, department
- B. How to take messages correctly

V. Procedures and Therapies in Respiratory Therapy

- A. A basic familiarity of procedures and therapies as outlined in the department manual, awareness of what is involved in respiratory care
- B. For the purpose of enabling the aide to answer simple questions that the patient might have regarding a certain treatment

VI. Equipment identification

- A. Basic knowledge of all equipment (by the correct name) that is used in respiratory therapy.
- B. For retreival purposes

VII. Cleaning Equipment

- A. How to disassemble and reassemble equipment
- B. How to clean the equipment (procedures with chemical solutions, etc.)

VIII. Equipment Transport

- A. How to move equipment
- B. How to put on regulators

IX. Patient Transport

- A. From bed to chair
- B. From bed to wheelchair

X. Lab Material Transport

- A. Arterial blood gases

1. Pick up from therapist
2. Transferral to lab
3. Bring back slip

B. Suptum - transferral to lab

XI. Inventory

A. Familiarity with equipment in the department
B. Knowledgeable of from what sources within the institution to obtain equipment

XII. Oxygen Rounds - check supplies on each floor

CONTENT OUTLINE
PHYSICAL THERAPY AIDE

I. Historical Foundations and Overview of Physical Therapy

- A. Educational process in obtaining credentials
- B. Sensitizing students to various patient conditions
  1. Paraplegics
  2. Quadriplegics
  3. Burn patients
  4. Amputees
- C. Listening Skills
  1. Empathy
  2. When to report patient discourses to supervisor
  3. Patient rights

II. Patient Lifting and Transfer Techniques

- A. One-sided weaknesses
- B. Various extremity involvement

III. Draping (general techniques)

IV. Equipment Identification and Storage (general)

V. Infection Control

VI. Maintaining Treatment Area

- A. Managing linens
- B. Storage
- C. Hot packs
- D. Cleaning treatment table between patients
- E. Puting away equipment and supplies

VII. Hydrotherapy Room

- A. Cleaning tanks
- B. Preparing baths (temp. and etc.)

VIII. Ambulation Techniques (general)

- A. For specific disabilities
- B. Where aide stands
  1. When assisting patients with walkers
  2. When assisting patients with one-sided disabilities

IX. Telephone Techniques (general)